

# ● PRINTER RUSH ●

(PTO ASSISTANCE)

*request  
2nd*

Application : <u>10688707</u>	Examiner : <u>TRAN</u>	GAU : <u>3748</u>
From: <u>NPB</u>	Location: <u>IDC</u> FMF FDC	Date: <u>12/12/05</u>
Tracking #: <u>epm 10688707</u>		Week Date: <u>07/18/05</u>

DOC CODE	DOC DATE	MISCELLANEOUS
<input type="checkbox"/> 1449		<input type="checkbox"/> Continuing Data
<input type="checkbox"/> IDS		<input type="checkbox"/> Foreign Priority
<input checked="" type="checkbox"/> CLM	<u>06/16/05</u>	<input type="checkbox"/> Document Legibility
<input type="checkbox"/> IIFW		<input type="checkbox"/> Fees
<input type="checkbox"/> SRFW		<input type="checkbox"/> Other
<input type="checkbox"/> DRW		
<input type="checkbox"/> OATH		
<input type="checkbox"/> 312		
<input type="checkbox"/> SPEC		

[RUSH] MESSAGE:

*Claim pages dated 06/16/05 (which matches NOA and index of claims) are illegible for capture. Please provide clearer copies.*

*(NOTE: The claim pages dated 11/07/05 is a copy of claim pages dated 03/08/05 which is not the most recent claim pages). (CLM pages dated 06/16/05 is the most recent claim pages).*

*Thank you*

[XRUSH] RESPONSE:

*Done*

*clear copy provided*

INITIALS: *[Signature]*



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**Date: January 4, 2006**

**TO: Rori Burch - USPTO**  
Fax No.: 703-308-6642

**FROM: Diana Brehob**  
Telephone: 313-322-1879

**NUMBER OF SHEETS ATTACHED TO THIS TRANSMITTAL: 8**

**MESSAGE:**

Re: USSN 10/688,707; our reference 81044475

Per your request, please find attached a Reply to Notice to File Corrected Papers, which includes a version of Amendment filed on 06/16/2005 in a larger print font, as requested. Thank you.

This communication contains confidential information which is intended only for the use of the addressee. It may also contain information that is protected by the Attorney-Client Privilege or the Work Product Doctrine. Copying or distribution of this communication by persons other than the addressee is prohibited. If you have received this communication in error, please notify us immediately by telephone and return the original message to us at the above address by United States mail. Thank you.

Customer No. 022844

10/688,707  
PATENT

☒ OFFICIAL  
☐ UNOFFICIAL

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Moore, Eifert

Serial No: 10/688,707

Group Art Unit: 3748

Filed: 18 October 2003

Examiner: Diem T. Tran

Title: METHOD FOR REDUCING THE EXHAUST EMISSIONS FROM  
AN ENGINE SYSTEM

Customer No. 022844

Record ID: 81044475

CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. § 1.8(a))

I hereby certify that this correspondence is, on the date shown below, being transmitted by  
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1-4-06  
Date

Walia Joss  
Signature

Mail Stop Amendments  
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P.O. Box 1450  
Alexandria, VA 22313-1450

REPLY TO NOTICE TO FILE CORRECTED PAPERS

Sir/Madam:

In response to the Notice to file corrected paper mailed 25-October-2005,  
please enter the following amendments and remarks. These are identical to that  
filed on 16-Jun-2005, although in a larger font for improved readability.

**Amendments to the Claims** are reflected in the listing of claims that  
begin on page 2 of this paper.

**Remarks** begin on page 6 of this paper.

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (canceled)

2. (previously amended) The method of claim 3 wherein power output from the starter motor is regulated to meet existing and impending power demands by drive system auxiliary devices.

3. (previously amended) A method for reducing exhaust emissions during cold start of an internal combustion engine, the engine being coupled to a starter motor and an exhaust gas treatment device, comprising:

providing assist to the engine by the starter motor to meet a demanded power when a temperature of the exhaust gas treatment system is less than an operating temperature of the exhaust gas treatment device; and

operating the starter motor as a generator after the operating temperature of the exhaust gas treatment device has been reached.

4. (currently amended) A method for reducing exhaust emissions during cold start of an internal combustion engine, the engine being coupled to a starter motor and an exhaust gas treatment device, comprising:

providing assist to the engine by the starter motor to meet a demanded power until a temperature of the exhaust gas treatment system reaches an operating temperature of the exhaust gas treatment device; and

The method of claim 6, further comprising: retarding spark timing of the engine.

5. (currently amended) The method of claim 46, further comprising:  
heating the exhaust gas treatment device by electric heater coupled to the  
exhaust gas treatment device.

6-7. (canceled)

8. (previously amended) The method of claim 10, further comprising:  
retarding spark timing of the engine.

9. (previously amended) The method of claim 10, further comprising:  
heating the exhaust gas treatment device by electric heater coupled to the  
exhaust gas treatment device.

10. (currently amended) The method of claim 46, further comprising:  
delaying a shifting operation of an automatic transmission coupled to the  
internal combustion engine.

11. (canceled)

12. (currently amended) The system of claim 164 wherein said electronic  
control unit causes spark timing of the engine to be retarded.

13. (currently amended) The system of claim 164 wherein said electronic  
control unit causes an electric heater coupled to the exhaust gas treatment  
device to heating the exhaust gas treatment device.

14-15. (canceled)

16. (currently amended) An engine system comprising:  
an internal combustion engine;  
a starter motor coupled to said engine;

an exhaust gas treatment device arranged in an engine exhaust of said engine; and

a control unit electronically coupled to said engine and said starter motor, said control unit causing said starter motor to provide power to reduce a power provided by said engine until said exhaust gas treatment device achieves an operating temperature~~The system of claim 14 wherein said electronic control unit causes spark timing of the engine to be retarded.~~

17. (currently amended) The system of claim 164 wherein said electronic control unit causes an electric heater coupled to the exhaust gas treatment device to heating the exhaust gas treatment device.

18. (canceled)

19. (currently added) The engine system of claim 164 wherein said starter motor is an integrated starter generator.

20. (currently amended) The method of claim 46, further comprising: discontinuing providing assist by the starter motor when a temperature of the exhaust treatment device exceeds said operating temperature.

21. (currently amended) The method of claim 46 wherein said operating temperature is a temperature at which the exhaust treatment device becomes active.

22. (currently a amended) The method of claim 46 wherein said starter motor is an integrated starter generator.

23. (currently amended) The method of claim 22, further comprising: operating said integrated starter generator as a generator when a temperature of the exhaust treatment device exceeds said operating temperature.

24. (canceled)

25. (currently amended) The method of claim 274 wherein said engine supplies a lesser amount of power than otherwise because of power supplied by the starter motor when both the engine and starter motor are operating.

26. (currently amended) The method of claim 274 wherein said operating both the engine and the starter motor has both the engine and the starter motor providing mechanical power.

27. (currently amended) A method for reducing exhaust emissions during cold start of an internal combustion engine, the engine being coupled to a starter motor and an exhaust gas treatment device, comprising:

supplying rotational energy to the engine at rest by the starter motor;

providing fuel to the engine when an engine rotational speed substantially exceeds an idle speed;

continuing to operate both the engine and the starter motor after fuel is provided to the engine until the exhaust gas treatment device reaches a predetermined temperature; and

~~The method of claim 24, further comprising:~~ discontinuing operation of the starter motor when a temperature of the exhaust treatment device exceeds said predetermined temperature.

28. (previously amended) The method of claim 27 wherein said predetermined temperature is a temperature at which the exhaust treatment device becomes active.

29. (currently amended) The method of claim 3024 wherein said starter motor is an integrated starter generator.

30. (currently amended) A method for reducing exhaust emissions during cold start of an internal combustion engine, the engine being coupled to a starter motor and an exhaust gas treatment device, comprising:

supplying rotational energy to the engine at rest by the starter motor;

providing fuel to the engine when an engine rotational speed substantially exceeds an idle speed;

continuing to operate both the engine and the starter motor after fuel is provided to the engine until the exhaust gas treatment device reaches a predetermined temperature; and

~~The method of claim 29, further comprising: operating said integrated starter motor generator as a generator when a temperature of the exhaust treatment device exceeds said predetermined temperature.~~

31. (previously amended) The method of claim 27 wherein when the starter motor operation is discontinued, the starter motor provides substantially no positive or negative torque.



REMARKS

The Examiner has rejected claims 5, 6, 9, 10, 13, 14, 17, 19, 22, 24-26, and 29. The Examiner has allowed claims 2 and 3 and has objected to claims 4, 8, 12, 16, 20, 21, 23, 27, 28, 30, and 31.

Applicants have canceled claims 1, 6, 7, 11, 14, 15, 18, 19, 24. Currently pending are claims 2-5, 8-10, 12, 13, 16, 17, 20-23, and 25-31 of which claims 3, 4, 16, 27 and 30 are independent claims.

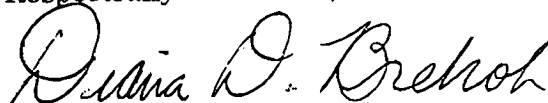
Independent claim	Claims which depend directly or indirectly from the independent claim
3	2
4	5, 8-10, 20-23
16	12, 13, 17
27	25, 26, 28, 31
30	29

The Examiner has stated that claims 4, 16, 27, and 30 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants have done as suggested by the Examiner. Claim 4 formerly depended on independent claim 6, but has now been rewritten with all the limitations of claims of claim 6. Similar amendments were made for claim 16 (formerly depended from claim 14), and claim 27 (formerly depended from claim 24). Claim 30 formerly depended from claim 29, which depended from claim 24. Applicants have rewritten claim 30, including the limitations of claim 24. Applicants request allowance of independent claims 3, 4, 16, 27, and 30 and the claims which depend from them, as listed in the table above.

Based on the foregoing comments, the above-identified application is believed to be in condition for allowance, and such allowance is courteously solicited. If any further amendment is necessary to advance prosecution and place this case in allowable condition, the Examiner is courteously requested to contact the undersigned by fax or telephone at the number listed below.

Please charge any cost incurred in the filing of this Amendment, along with any other costs, to Deposit Account 06-1510. If there are insufficient funds in this account, please charge the fees to Deposit Account No.06-1505.

Respectfully submitted,



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